Supporting Information Material

Antibacterial Enhancement of High-Efficiency Particulate Air Filters Modified with Graphene-Silver Hybrid Material

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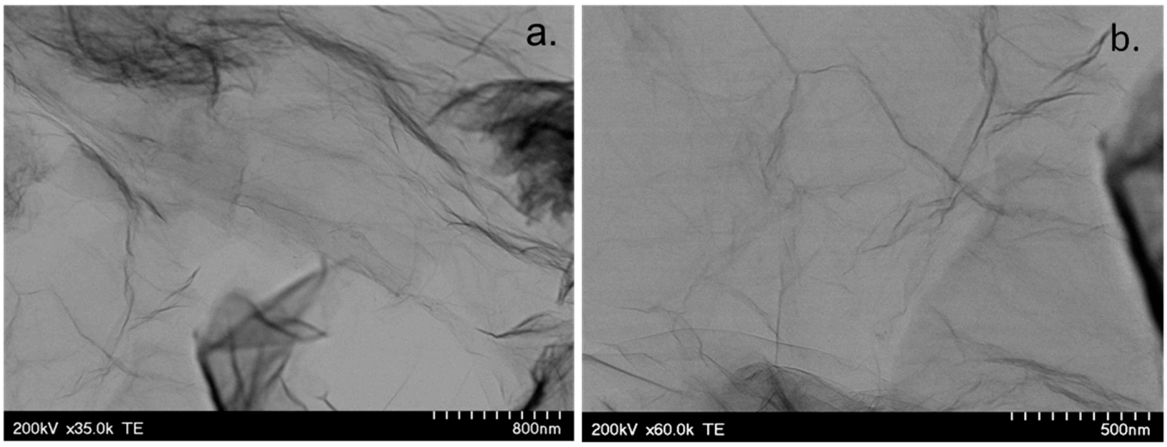

Figure S1. Representative TEM micrographs of reduced graphene oxide with no nanoparticles attached on its surface (a, b).

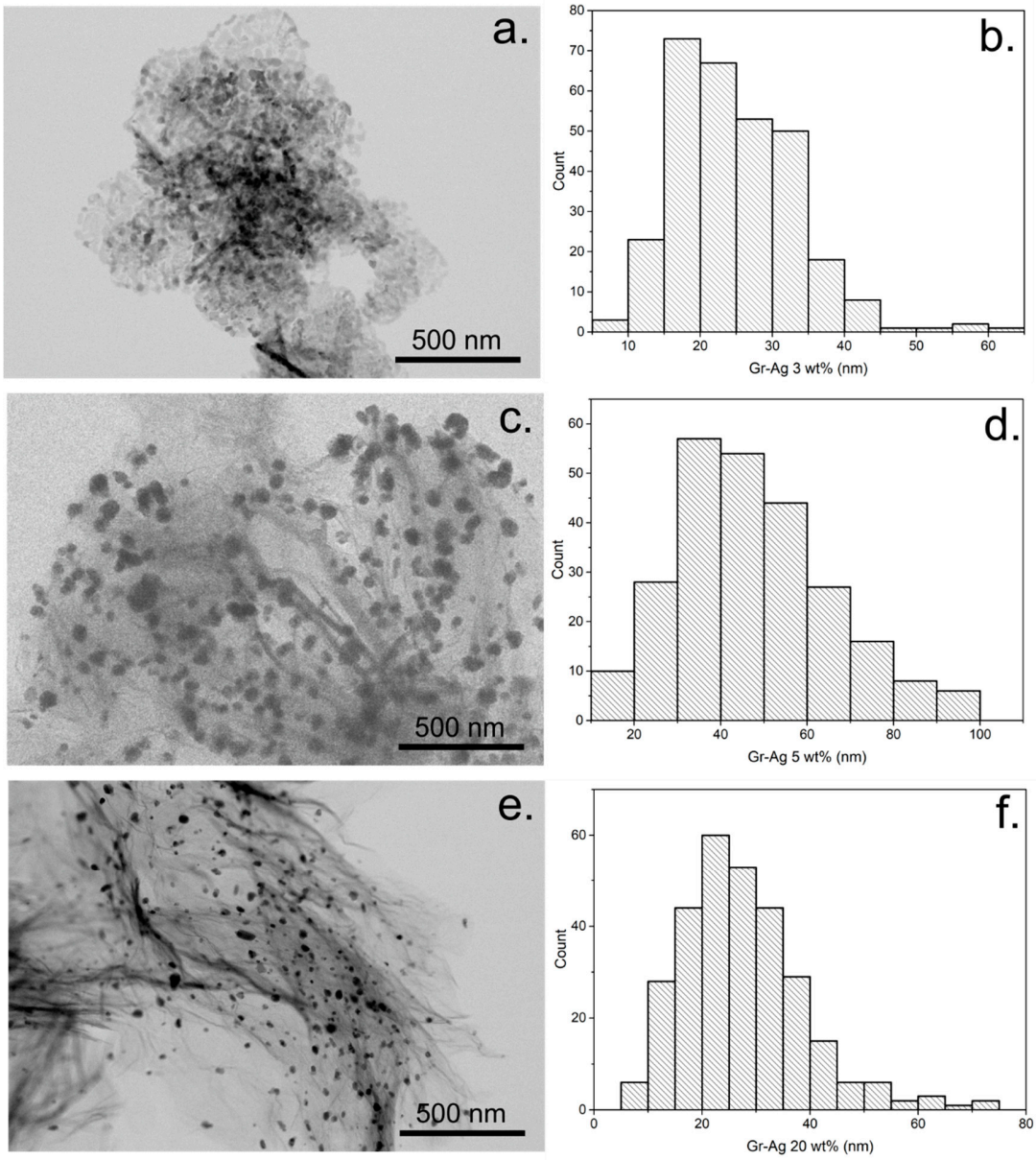

Figure S2. Representative TEM micrographs of Gr-Ag hybrids with various quantities of Ag and their corresponding histograms depicting the size distribution of nanoparticles: Gr-Ag (3 wt% Ag; a-b); Gr-Ag (5 wt% Ag; c-d); and Gr-Ag (20 wt% Ag; e-f).

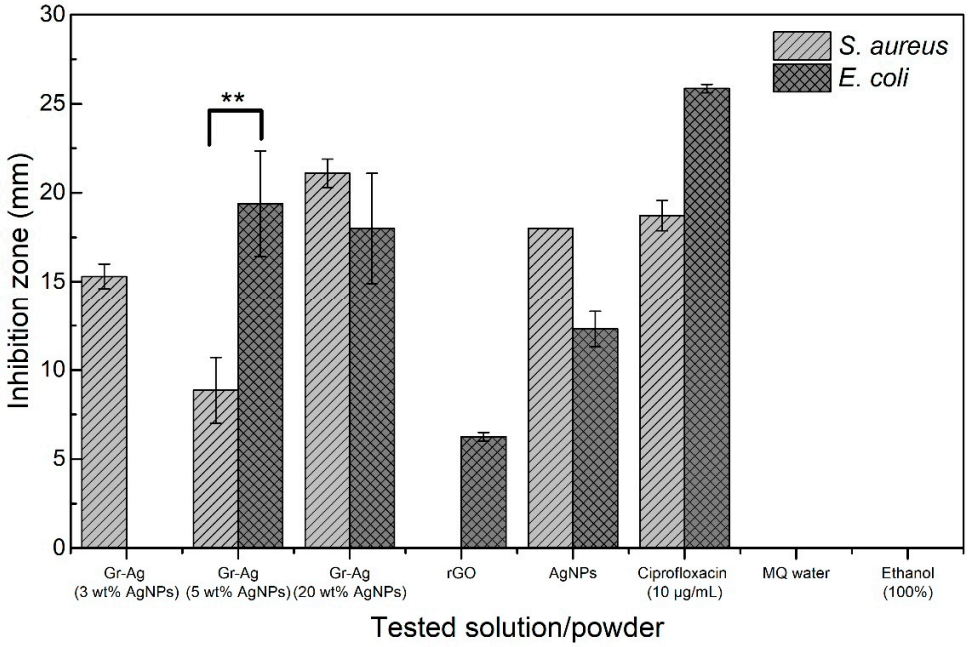

Figure S3. The antibacterial assessment against *S. aureus* and *E. coli* of rGO, AgNPs and Gr-Ag hybrids with different quantities of Ag; * $p<0.05$, ** $p<0.01$, *** $p<0.001$ according to Students' *t* test.

Figure S4. Optical images of HEPA filters before and after modification with Gr-Ag (5% Ag) material.